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ABSTRACT

The nature of giftedness, talent, and creativity is examined, and implications for teaching are given. Problems with using IQ as a precondition for identification are considered, especially for creative individuals. Typical obstacles to creative thinking are outlined, including classroom atmospheres that do not welcome new ideas. The importance of multicomponent approaches to developing the potential of gifted students is underlined, and approaches to stimulate creative thinking are suggested which involve deferring judgment, letting quantity of ideas surpass quality of ideas, encouraging free thinking, and combining ideas for new solutions. Ways in which the schools can provide the environment for developing creative intelligence are described, program alternatives (such as college courses for high school students) are considered, and the importance of focusing on social relationships and self concept is emphasized. (CL)

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Educating the Gifted, Talented and Creative

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EDUCATING THE GIFTED, TALENTED AND CREATIVE

"Put more questions on their test and they will take longer to complete so they won't have time to sit around." This type of thinking, unfortunately, is not a fictional concept. When considering the gifted, talented and creative in the classroom, many false assumptions are believed. Some pass as educational operation. We should begin with first things first.

Who are and where are these gifted, talented and creative people? The identification of the gifted and talented is primary to our concern about them. The past score of years has found us developing and expanding our emphasis on definition. We have progressed past the early point of exclusively "academic" or "intellectually bright". This expanded emphasis, due to efforts by J. P. Guilford and E. P. Torrance, has allowed our recognition to include qualities of strengths and talents in many areas. The Marland Report (1972) has provided this impetus or focality of the last decade. There are diverse areas of giftedness that must be recognized. We find general intellectual ability, specific academic aptitude, visual and performing artistic ability, creative or productive thinking, leadership ability, and psychomotor abilities as those areas wherein a gifted person will excell or has demonstrated achievement/ability. This can occur in a single area or a combination of areas. There is also strong evidence these persons will have a high probability of creative talent and task commitment. These particular characteristics are individual and do not have to be considered in relation to others. It would be incorrect to assume an intelligent person has a specific gift, nor would he automatically be a creative individual. It would also be

incorrect to assume a gifted person would be creative or intelligent in other areas. It would be correct to assume that some students are creative in nature even though they do not necessarily possess a high degree of intelligence (but they may) nor does it presume they are gifted in any way (but they may). We also know that the training and experience with the disciplines in one area of endeavor often influences a similar behavior in other endeavors. To promote creative thinking, our teaching strategy should involve discovery and invention so the child can discover something new to him. This need not be a totally new idea. Beware of practicing creative activities in isolation from meaningful content and problems.

The measurement of IQ as a pre-condition for identification is not a complete and solely valid standard. We will not find a percentage quota among our population that will fit neatly into the Gifted, Talented and Creative category. Since the IQ score only relates a part of a person's abilities, we should not give it exclusivity in the selection process. Identification should not be a means of exclusion, but a means of inclusion based upon one's strengths and talents. Dr. Donald Treffinger makes four implications for determining identification:

1. We should be making efforts to expand our search for the presence of unique characteristics or indicators of behavior that can be related to instructional planning, not merely selection of students.

2. We should be placing greater emphasis upon identification as a qualitative (involving sound clinical and educational judgment), not merely a quantitative or statistical approach to decision-making.

3. We must move toward using identification data to provide a basis for multiple and varied instructional plans, not merely for inclusive/

exclusion decisions.

4. Improving identification should be viewed as examining the most appropriate paradigms, not merely choosing the best tests or instruments. (1982) Is creativity synonomous with intelligence? J.P. Guilford identifies intellect as having 47 known factors that break down into 3 classifications. He defines these as: Figural Intellect which deals with the seeing of lines and forms and their properties of size, shape, color, texture, rhythms, melodies and sounds; Semantic Intellect, which is knowing and using "meanings" in verbalized form; and Symbolic Intellect which deals with numbers, syllables, codes, word structures and others with no natural meaning. The thinking abilities that are used with each class are cognition, recognition, convergence, divergence and evaluation. Since the thought operations of all three classes of intellect are the same, we can assume parallels in the abilities. All thought results in a certain product of some kind. The creative abilities are the recall of information; flexibility of going from one thought to another; originating ideas; and the elaboration or completion of an idea. Certain relationships are seen to exist between thought and creative performance. Creativity seems to be more involved in flexibility with origination and the ability to finish. Can we assume creative is synonomous with giftedness? Paul Torrance has some thoughts on this topic. He believes there are individuals who are gifted but only mediocre or below average in creativity. We know we can train individuals in creative thinking, but we derive a rather inflexible creative thinking process.

Resources, special courses, support services, a full curricula of programs should be available as the regular classroom teacher cannot

provide all that is needed for an adequate program for all the students. Gifted education must be a built-in part of any program. The regular program should contain a blending of flexible offerings and activity options which will be on an individualized structure. There is every hope that what becomes structured for the gifted will affect and influence the regular educational program. An important educational motive is to help the children understand their modality strengths and discover the right technique for their expression. The concepts of education have been the identification of language with mind functioning. The expression of thoughts and the discussion of ideas is mind function. The use of language for this sharing, whether verbal, written or symbolic is a function of the mind. Our structure is majorally acclimatized for this type of individual. The impaired will not usually test well using standard procedures. Perhaps an involvement with the creative processes for the outlet of expression without the inhibition of language would lead to a development of mind function. Learning creativity is the mode here, not therapeutic measures. There are no limits to creativity vis-a-vis creative thinking. Persons can increase their creative thinking simply by trying. We need to provide the opportunities.

Can we teach creativity? We must first understand with what we are working, and if we are ready to do so. There are distinctions between academic intelligence and creativity. There are areas of overlap, but academic intelligence is dependent upon the assessment and use of facts while creativity depends on the use and application of sensitivities. Either precision or open-ended work may cause creative thought in students, but this is not the realm of creativity per se. Creativity

can be the reorganization of existing parts into a new thought or concept "better" than before; the origination of completely new; the finding or arriving at new answers or new final products is the culmination of creativity. Creative intelligence will discern the necessary from the unnecessary. J. P. Guilford concludes that those mental functions serving creative thinkers are shared to some extent by all. Getzels and Jackson have found very little correlation between creative ability and intelligence measured by I.Q. Viktor Lowenfeld has outlined the understanding that creative expression will change from individual to individual, from medium to medium, from one stage of growth to another, and from experience to experience. Harold Anderson advises that creativity is a product and a process, with the product existing only in the past while the process is this moment. Paul R. Hendrickson (w/Paul Torrance) has found that highly creative children in most schools tend to learn as much as children with high I. Q.'s (based on standardized tests.) Further, there are strong cultural obstacles to creative thinking and one of the more powerful is peer pressure to conform. Creativity can be taught, and we are advised that a school with an austere, no-fun atmosphere will give the least evidence of creative thinking abilities present or in use. The greater reward for learning is thinking...that is, doing something with what has been learned. The classroom must provide the atmosphere of creativity, not just the opportunity. The fruition of creative activity could very well be in extension of the class room. Bring the gift to others. Creative patterns should not become "standard operating procedure" as set and routine. Welcome new ideas when they occur. Make the classroom welcome to them. Relate the creative activities to the content and assist

the students to acquire a wide fund of information. Creativity cannot operate in a vacuum. Instruct in the methods of creative problem-solving so the students could promote it themselves. Integrate the arts and other multisensory activities for sensitivity and interdisciplinary relationships. Provide for affective as well as cognitive development. The gifted, talented and creative are, to be sure, children and students first. As such, they fall into the very broad spectrum of character and interest diversity to be found elsewhere in a public setting. The differences in character, personality, interests and abilities are tempered by their environment and emotions. To be gifted does not presuppose any other physical or psychoemotional similarity to any other gifted person. The varieties could be found in any random selection.

"Being gifted often isn't easy in a society dedicated to a kind of misguided egalitarianism which is suspect of anyone who deviates from the norm. The handicapped can evoke sympathy, but research reveals that the feelings of teachers, students and others are not always positive toward the intellectually superior. Their negative feedback to the gifted child has an effect on the child's self-concept and this in turn affects how well she/he will develop inherent talents. Moreover, what society values will also have an effect on how well talents are developed. All of these factors must be taken into consideration in developing programs of affective education for the gifted." (N/S-LTI-G/T Conference 1977)

"Most individuals and societies sacrifice creative possibilities of new experience for the security afforded by the conventional way of doing things. They hold fast to their established set of values, thereby keeping their security intact. Often the creative individual has the choice only of conformity to the group or of alienating himself from

it. In this way the group threatens the mental health of the creative individual." (DeHaan, Havighurst, 57) Societal values and individual values will have to be weighed one against the other by the G/T/C to determine which comes up wanting.

What similarities exist will be found in traits of creative techniques, abstract reasoning, conceptual organization, and appropriate application. The outlets or expression of these traits may be in divergent styles and manners. The operational modes of gifted students have similarities, their forms of expression do not necessarily. It is this lack of similarity that indicates to us that we must construct multi-component programs if we have hope for success in developing the potential of the gifted students. The creative person is characterized by four (4) abilities. These are: 1. the ability to recall stored information qualitatively and quantitatively; 2. the ability to move from one thought to another in generation of a variety of responses/solutions; 3. the ability to originate unique ideas or concepts; and 4. the ability to elaborate and finish an idea. There seems to be some basic encouragements to stimulate creative thinking. The first would be to defer judgement. (Sometimes a common home and classroom fault is imposing negative judgements of ideas.) Next would be to generate many ideas for any given situation (let quantity surpass quality.) Third would be to encourage free thinking (implausibility may spark workability). Lastly it may be worthwhile to combine several of the ideas for new solutions. Once the basic quality of ideas has begun, it is time to evaluate, verify and implement from the "idea pool." The concept of creativity/talent/intelligence is an over lapping one. Creative thinking is a function of intelligence much the

same as logical thinking is. The talented person [illegible] to practice some creativity of some sort. When we examine creativity, as such, we recognize that all of us are creative to some extent. To qualify that precept let us turn to the examinations of Frank Hajcak wherein he breaks this notion on creativity into: creative process (mental operations); creative person (someone able to mentally operate creatively); creative product (an end result of effort); and creative skill (the degree of competence). Hajcak states a person may possess any one of these without the others. (Art & Activities/April 81). With the habit of society to generalize and label, it is possible to overlook the creative person who has never learned to express himself or who has never acquired the skills necessary to produce a product. Hajcak says there are estimates that as high as 80% of the creative persons have missed being identified/developed. (Hajcak prefers 60%.) If we can project this manifestation to the public schools we must as readily see the identification, instruction and indoctrination of creativity is the purpose of education and not the by-product or ancilary attitude. Can we teach creativity? Lowenfeld relates the differentiating characteristics of "creative intelligence" to intellectual sensitivities. The school can provide the environment for the unfolding of these sensitivities. Lowenfeld specifies:

1. Distinguish between objective (procedures, techniques) and subjective (visual, auditory, kinesthetic) needs of expression.

2. Help the child find the "right" technique.

3. Be sensitive to the difference between the child's and adult's needs for expression.

4. Help the child find his approach to his solution. (Art & Activities, Nov. 80.)

The premise of G/T/C programs is individualization and the promise is constructive freedom. The standards for inclusion should not be so rigid. We may generally find giftedness in two strata. The learning gifted student who acquires great amounts of information and performs well on tests is the one most often appearing on lists of gifted because of the predominant use of IQ scores to identify and admit. The creative/producing gifted student is one in whom we will find the developer of original material. We will not usually find this student among the top 3-5% by using the IQ standard. We will find these latter people, as adults, have been the developers of knowledge rather than the consumers of knowledge. We must consider the affective and cognitive factors in any G/T/C program. We must consider the values, feelings, personal growth and interpersonal relations. In 1926 C. C. Cox did a study on 300 geniuses and their early traits and estimated IQ's. She found these people, among others would not have been admitted to any program that had an IQ cutoff of 130: (Cox 1926)

Copernicus	Lavoisier	Lincoln
Raphael	Haydn	Locke
Rembrandt	Bach	Madison

We need to consider both types of students and not condemn ourselves to an inflexible approach that will only lose otherwise very qualified students. Others, such as Tumin, Lynes, White, and Reisman have illuminated the dangers of conformity, and the correlative attrition of the individual will and ability to discriminate, as the seeming characteristic of our times. Arthur Schlesinger, Jr. has stated: ".....our national apothesis of the group means that we systematically lop off eccentrics, the originals, the proud, imaginative, lonely people from whom

new ideas come." (Saturday Evening Post 1958) Just before his death, Viktor Lowenfeld wrote: (unpublished) "And, above all, remember you are not trying to make your child an artist. It is his "creativeness" you care about: his sensitivity, originality, adaptability, fluency, flexibility, and all the powers of synthesis, analysis and redefinition." The greatest gift of all is the person's desire to create and produce. It is what we as teachers do to help stimulate and fulfill this desire that ultimately will determine if we are really worthy of being called teachers of the gifted." (Renzulli 1982) The development of a program or any series of curricula for the gifted should be perceived as that to which they should be entitled or expect to receive. There should be no question of privilege to be given a differentiated structure. The goals of teaching clearly are to interact with whatever potential/ability the students can demonstrate. We then design a workable program to that self-potential; be it remedial, disabled, or gifted. The planning of special programs is premature until the total regular program is examined for the concerns of the gifted student and, when available, physically or economically, special services, material, areas, teachers, and programs can be made available. The primary question is in the fact there are students who have different learning/reaction characteristics and who may possess some exceptional abilities who need educational planning that attends to this.

The characteristic of creativity is a life-style rather than an ability. This manner of being and working can utilize the operations of cognition, memory, convergent and divergent production and evaluation. J. Khatena sees creativity as three-dimensional. He lists individual (personal dimensions), environment (societal and cultural), and cosmos

(including suprarational forces). This structure gives reference to the "operations of increasing order" by Gowan (1980). It is by this concept we distinguish the creative genius from rational creativity. Since we are so closely involved in the rational realm of creativity, we tend to have set our known parameters for the measurement of creativity. The measurement of creativity has been suggested by Rhodes (1961) to be through the process, person, product and the press. Of these, the more valid measurements have come from the process and the person. Whatever measures we take we must use those that have importance to the school setting educational process. We must remember the gifted and talented student may not necessarily be a creative individual. We can train the student in creative thinking and planning. However, we must be careful not to exclude from our planning, those students with creative expertise and not necessarily a superior intelligence rating. We need to plan a program with concepts that are basic and open to individual initiative and creativity. We must organize a program framework that will support basic education and allow for the exceptions in the speed of working/learning, content, and location for these students having those needs. This should be based upon the characteristics of those students. Those factors that affect effectiveness are discussed by MacKinnon:

> "The wide range of individual differences surely must mean that there is no single method for nurturing creativity; ideally the experience we provide should be tailor-made, if not for individual students, at least for different types of students. We should remember that the same fire that melts the butter hardens the egg." (1978)

The Creative Education Foundation conducted an experimental course on the teaching of creativity, the syllabus based on a book by Alex Osborn (Your Creative Power) and was used with 1200 day students (Univ. Buffalo) and 1600 business executives. A second book by Osborn (Applied Imagination) has been adopted by Massachusetts Institute of Technology and has formed over 1000 such courses throughout the country. Such a course was the basis of the research by the psychologists of the Foundation. A summary of their results is:

1. Creative imagination can be deliberately developed.

2. Creative problem-solving courses can measurably improve the ability of students of average intelligence to produce good ideas, the criteria of quality being uniqueness and usefulness.

3. A systematic course of instruction can also produce significant gains in personality traits such as confidence, initiative and leadership potential.

A recent study on outstanding achievement by swimmers, pianists, and mathematicians by Bloom has been a corollary to other studies. It has been recognized, and recently re-proven, that there is a direct relationship between students demonstrating unusual talents/abilities and the creative adults, with special expertise, they will become. Equally significant is the large majority of these creative adults grew up in the presence of parents/adults who made an encouraging atmosphere or definite contributions in the area of their future eminence. When we understand the nature of this phenomena, we must use it as being of great importance in the influencing of programs for the G/T/C. "An individual, particularly a child, may create something that is new only to him and not to

anyone else." (De Haan & Havighurst) People's needs and range of experiences will vary from person to person. A simple line placed on a piece of paper in a different way may be exciting to the individual. This, to him, may be something new and exciting. This response is the vital factor. Upon this, our reaction and enticement, if needed, should be given to that person. "The psychological significance of this is in the significance of the result to the person who created it." (De Haan & Havighurst) The creative act may signify or extend some point of emotion within the individual. If this act produces a pleasing effect, a sense of accomplishment and pride will justifiably be present. The true significance lies in the realization that this thing was produced, was originated, was conceived and brought to be by "ME". This can all be torn away if further creative acts do not come from or after this one successful attempt. The single act becomes isolated. Without relationships, the process derived from the first act becomes halted and, in time, stagnated.

The programs should also allow for the general preference of the G/T/C student for independent study. Much research has found that this is a characteristic. Other research has proved that there is generally more progress in cognitive and affective learning when students are allowed to use their own preferred learning methods. We must not be entrapped into the single program delineation where the potential of many will be unchallenged. The program for the G/T/C must be constructed from many parts. Torrance (81) believes that people are motivated to do those things they do best. A vital element in the educational program for the G/T/C is the regular program. All too often, it is easy to find the regular teachers and program. All too often, it is easy to find the regular teacher and

program being left out in the planning for the G/T/C. In reality, that teacher and program could and should be central in the differentiated program to be developed for the G/T/C. It is not a question of such a program being an add-on or extra program. The student learns in many ways and from many sources. Many activities are good for all students and should be so shared/utilized in school-wide planning. However, Renzulli asks if all could study as we define a differentiated curriculum; would all want to; and would all be successful? As all activity originates from an idea, there can be only very little voluntary control. Experiences and events are constantly being sifted, shifted and reviewed. When a combination is formed--so is an idea. The mental activity cannot be entirely directed but can be externally deflected.

One of the first steps we can take is to call for quantitative answers to problems &/or their solutions and from this quantity find our quality. To call for one correct response and stop at that point is to inhibit the creativity that could take place. We must not become one-sided in our extension of lines of communication. Our current emphasis on knowledge accumulation drastically neglects the development of sensibilities and expression. We should not approach the students' education with only preconceived academic methods and prescriptions. We must go beyond the verbal to involve the whole individual, his thinking, feeling and perceiving in his relationship to man and environment. Divergent problem-solving would seem to lend itself to this thought. When problem-solving, break the problem into sub-problems; ask questions; prod the brain; suspend judgment; brainstorm solutions; re-classify for usefulness; force new relationships; analyze, incubate the ideas, develop criteria evaluation and synthesize into convergent solutions, answers

or procedures. It is wise to remember that good education and effective learning experiences occur by planning and not happenstance. The G/T/C curriculum must be developed by the accumulated characteristics as well as the general needs of the learners. The regular program and classroom can benefit from an all-school planned curriculum. This curriculum should have a consideration for G/T/C as it does for the handicapped learner and any others who have demonstrably different needs and learning abilities/ methods. The often used answer to this need has been to institute a special program for the intellectually gifted. These programs have mostly been pull-out program, sometimes with a mentor. While it is far better to have incomplete or uncentered answers to the correct questions than it is to ask the wrong questions, it cannot be assumed that such a limited program could meet the needs of the G/T/C population. These students require that we modify the regular curriculum for them to process more information on a higher level and at a faster pace. For too much time, argument has been given to the merits of enrichment over acceleration as a method of providing for the G/T/C. It would seem that the processing of more information is consistent with enrichment motives, while the processing on a higher level at a faster pace would seem very synonymous with the acceleration mode. Let us leave this old argument with the thought neither is the technique to be employed; both are characteristics to be perceived. The program alternatives that offer opportunities for educational learning experiences are many and diverse. An extensive 30 item list is offered by Getzels and Dillon (1973). A few of these are:

1. Summer classes
2. College courses for high school students
3. College credit for high school courses

4. Special classes for a particular subject(s)
5. Saturday classes
6. Ability grouping
7. Clubs and extracurricular projects
8. Special school
9. Non-school programs (libraries, museums, orchestras)
10. New curricula

The continuing research and development in the area of the G/T/C has produced many new program opportunities. We find the Study of Mathematically Precocious Youth (SMPY) (Stanley 1979), Junior Great Books, Future Studies, Future Problem Solving, Olympics of the Mind, The Purdue 3-Stage Model, (Feldhusen and Kolloff 1978), the Enrichment Triad Model (Renzulli 1977), the Individualized Program Planning Model (IPPM) (Treffinger & Colon 1980). To be sure, we must also remember training in creative problem solving (CPSI), SOI (Guilford) (Meeker), Synetics, Scamper, Lateral Thinking (De Bono), Taxonomy (Bloom), Gagne's Hierarchy, Hilda Toba, Phil Phenix, and Piaget and countless others. We only need to select a model and construct a program, or several models to do our bidding.

We must also consider the tender side of this multi-faceted problem. The G/T/C student does not always have an easy time of it being himself. Peer pressure and opinion do much shaping. The demands of parents and other adults may also be beyond the G/T/C students' capability and emotional maturity. The G/T/C student may develop problems of self-concept to the degree of denying his or her abilities and potentials. The differentiated curriculum must also deal with this delicate aspect for the G/T/C. This topic of concern is two-edged. It is necessary to help the G/T/C students realize and accept their abilities and build realistic self-concepts around them. They need to be as realistic about those things

they do not excell in and those times when they fail in their attempts. The other edge is the education of others as to the characteristics and limitations of the G/T/C student. Education is needed for teachers and parents not to over drive the students.

The G/T/C should be assisted to develop positive relationships between him/herself and both the general population and the program peers. These relationships will be both socio/emotional and intellectual. The students must be able to set their objectives and structure their approach to attain these objectives. They may or may not require the guidance to know when and to what degree they have succeeded. Many G/T/C will experience a sensitivity in their awareness and involvement and may need help in understanding. As any other student, the G/T/C also need help when they are "spinning their wheels" in their efforts, or have approached a dead end. All in all, the G/T/C may have difficulty in becoming aware of, realizing, understanding, accepting, and being able to handle for productive/affective use, their giftedness.

Once the placement and procedure questions are answered we need to turn to the program. According to the development level of the G/T/C we need to assess the program content, both regular and differentiated, to identify what will be taught/learned and by what structure. From this, we identify the concepts and discipline necessary. The process of thinking skills: critical; creative; problem solving; and/or logic must be examined. What research (skills) are required, and how will this be reinforced through the basic skills of the all school program. The differentiating will flower at the points of determining the product as a result and the affective considerations of attitudes and appreciations. Shall the content of a learning experience be broad based, interdisciplinary, and/or involved with abstract

relationships? The processes of integrating basics with creativity, reinforcement, extensions, research, and thinking are to be applied. What results are we looking for, will it be some communication form, a new/newer technology, or the sharing of material variety and evaluation? The focal point to this scope and sequence should be the effective results to the G/T/C student, and who places this goal; the setting of a student standard, the realization of the ideal situation, or the opinion/suggestion of the scholars (research)? What personal, social, instructional, and physical environment shall be set for the best educational learning experience (opportunity) in which we can involve the G/T/C students?

James E. Wightman
6/82.

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